

Summary of Combustion Turbine (CT) MACT

A&WMA MACT

Audio & Web Conference

May 20, 2002

NOTE: The information contained in this presentation has changed since it was presented.

(1) The formaldehyde concentration limitation is currently 43 ppb formaldehyde at 15% O₂ rather than 25 ppb formaldehyde at 15% O₂.

2. The estimated date of proposal is currently November 2002 rather than August/September 2002.

Please note that the information contained in this presentation could change before proposal since the rule is being reviewed by federal agencies. Sims Roy October 2002

CT-Applicability

- The rule will apply to each stationary combustion turbine with a rated peak power output greater than 1.0 MW located at major sources
- The following types of turbines do not have emission limitations, but new turbines must do an initial notification
 - An emergency stationary combustion turbine
 - A stationary combustion turbine burning landfill gas or digester gas as its primary fuel
 - A limited use stationary combustion turbine (operated ≤ 50 hours per year)
 - Existing diffusion flame stationary combustion turbines

Major Source

- “.. Any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in aggregate, 10 tons per year or more of any hazardous air pollutants or 25 tons per year or more of any combination of hazardous air pollutants...”
- The combustion turbines themselves do not need to be a major source of HAP
- For purposes of determining whether an oil or gas production facility is a major source for HAP emissions, only HAP emissions from combustion turbines, reciprocating internal combustion engines, glycol dehydrators, and tanks that have potential for flash emissions will be aggregated at surface sites. These requirements are similar to the requirements for the NESHAP for the Oil and Gas Production Facilities in subpart HH of 40CFR part 63

CT-Emission Limitations

- You must meet one of the following emission limitations:
 - Reduce CO emissions in the turbine exhaust by 95%, if you are using an oxidation catalyst emission control device, or
 - Reduce the concentration of formaldehyde in the turbine exhaust to 25 ppbvd or less, if you use means other than an oxidation catalyst emission control device.

CT - Operating Limitations

- If you comply with the emission limitation for CO reduction, or if you comply with the emission limitation for formaldehyde and your turbine is lean premix or diffusion flame:
 - No operating limitations.
- If you comply with the formaldehyde emission limitation and your turbine is not lean premix or diffusion flame:
 - Petition Administrator for approval of (no) operating limitations.

CT-Testing/Monitoring

- New turbines complying with the emission limitation for CO reduction:
 - Install CEMS
 - Initial performance evaluation of CEMS
 - Initial demonstration of 95% CO reduction
 - Yearly RATA

CT-Testing/Monitoring (cont'd)

- New LPC turbines complying with the emission limitation for formaldehyde:
 - Initial performance test using Method 320, CARB 430, SW-846 Method 0011, or proposed Method 323
 - Meet low NOx emission levels required by federally enforceable permit (or guaranteed by turbine manufacturer if no permit level).
 - Enforcement authority can request formaldehyde test if LPC NOx levels are not being met

CT-Testing/Monitoring (cont'd)

- New turbines complying with formaldehyde emission limitation that are not LPM or DFC turbines
 - Initial performance test using Method 320, CARB 430, SW-846 Method 0011, or proposed Method 323
 - Petition Administrator for approval of operating limitations or no operating limitation

CT-Testing/Monitoring (cont'd)

- Existing LPC turbines:
 - No initial compliance requirements
 - Meet low NOx emission levels required by federally enforceable permit (or guaranteed by turbine manufacturer if there is no permit level)
 - Enforcement authority can request formaldehyde test if LPC NOx levels are not being met

Potential Affected Sources

- Total Existing: 800 LPC turbines of which 160 will be affected (located at major HAP sites).
- Total New: 771 of which 155 will be affected (located at major HAP sites) by end of 5th year after promulgation.
- Estimate that about 20% of the existing and new turbines will be located at sites that are major for HAP.

Databases

- Inventory database (approximately 6000 existing turbines); total estimated at 8000 to 10,000
- Emission database
- Can be downloaded from EPA's Web site at:
 - www.epa.gov/ttn/atw/combust/turbine/turbpg.html
 - Microsoft® Access is the database software

Combustion Turbine MACT Schedule

- Proposal in August/September 2002
- Promulgation in November 2003

Information and Contact

- Information on the MACT rulemaking for combustion turbines is available on EPA's Web site at:
 - www.epa.gov/ttn/atw/combust/list.html
- Contact:
 - Sims Roy
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